

## WHAT IS CLAIMED IS:

1. A sophisticated postgenomic system for registration, identifying and processing of drug specific data, which links  
5 chemical, molecular modelling, bioinformatic, genetic, epidemiological, and molecular diagnostic data in order to develop prospective theragenomic information, and which comprises

- a master database correlating patterns of gene expression and genetic polymorphisms with drug-induced i. e. drug-related adverse effects and drug structure,
- a data-tool for structural and genetic fingerprints predictive for adverse effects in individual patients, and
- means for coupling the master database and the predictive tool in such a way that electronically prospective theragenomic information can be developed which allows the safe use of a given drug or a safe drug therapy, which is, with high probability, free of adverse drug reactions in an individual patient, wherein

the master database is in a form such that data records of the following type can be entered:

- Basic drug information such as for example information to intermediates, metabolites, adducts, targets, mimics, pathways, 2D-structures, 3D-structures and similarities.
- Clinical endpoint information such as for example drugs, type of endpoint, frequency.
- Drug-induced effects by genes on, as for example, receptors, promoters, transcription factors, responsive elements, expression patterns, gene function, 3D-structure, adduct targets, and autoantigens.
- Drug-induced effects to allelic variants, such as for example, SNP's, splice variants, and amplifications on function(s), 3D-structure, frequencies, ethnic differences, predictive power, selectivity and sensitivity.

2. System according to claim 1, wherein the predictive tool is in a form such that each individual patient-specific data comprises a set of selected yet predictive structural  
5 and genetic information which are presented on, for example, a gene chip.

3. System according to claim 2, wherein the data are classified into various subgroups as for example in subgroups  
10 dependent of the sex and/or of the age of the patients or in subgroups corresponding to clinical pictures and/or risk groups.

4. System according to claim 1, wherein it further comprises means which make available the master database and the predictive-tool to the public via the Internet.

5. A Method carrying out with a system according to claim 1, wherein the master database is being coupled to the database of the predictive data-tool in such a way that a user of the system can develop and carry out different screening approaches either to verify the sociability of drugs for a specific selected category of patients or to search a specific drug for a selected category of patients  
25 which do not have adverse drug reactions or to make risk-analyses.

6. Method according to claim 5, wherein the screening approaches is realised online via the Internet.

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